

A1  
108. (New) The method of claim 104 wherein the source is in communication with a second process similar to the healthcare process, the initial data and the subsequent data reflecting operation of the second healthcare process.

109. (New) The method of claim 104 further comprising:  
constructing a second model;  
storing the second model in memory;  
applying the second model to the healthcare process data to identify a second predicted descriptor characteristic of the healthcare process data; and  
consulting the first knowledge based system to produce the output based upon the first predicted descriptor and the second predicted descriptor.

110. (New) The method of claim 109 wherein the second model is constructed based upon the initial data, the subsequent data, the first descriptor, and the second descriptor, such that comparison of the first descriptor and the second descriptor represents a cross-validation.

111. (New) The method of claim 109 wherein the second model is constructed from operation of a second healthcare process similar to the healthcare process, such that comparison of the first descriptor to the second descriptor represents an external validation.

112. (New) The method of claim 109 wherein the knowledge based system is an expert system.

113. (New) The method claim 94 further comprising receiving key preliminary information and communicating the key preliminary information downstream to the first model, such that the first predicted descriptor reflects the key preliminary information.

---

REMARKS

Prior to examination of the subject application, Applicants respectfully request that claims 63-113 be added. No new matter has been introduced thereby. Attached hereto is a marked-up version of the changes made to the specification and

Chang-Meng B. Hsiung et al.  
Application No.: 09/802,377  
Page 9

PATENT

claims by the current amendment. The attached page is captioned "Version With Markings to Show Changes Made."

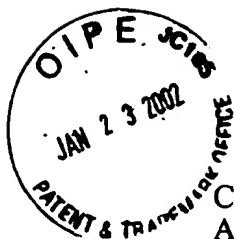
If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



Kent J. Tobin  
Reg. No. 39,496

TOWNSEND and TOWNSEND and CREW LLP  
Two Embarcadero Center, 8<sup>th</sup> Floor  
San Francisco, California 94111-3834  
Tel: (650) 326-2400 / Fax: (415) 576-0300  
KJT:ad  
PA 3179082 v1



**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS**

Please cancel claims 1- 62 and new add claims 63-113 as follows.

63.\_\_\_\_ (New) A system for monitoring a healthcare process, the system comprising a computer program product, the product comprising:  
    a code directed to accessing a process controller;  
    a code directed to an input module coupled to code directed to the process controller, the input module code being adapted to input a plurality of parameters from a process of a healthcare entity;  
    a code directed to a computer aided process module coupled to the process controller, the computer aided process module code being adapted to compare at least two of the plurality of parameters against a predetermined training set of parameters, and being adapted to determine if the at least two of the plurality of parameters are within a predetermined range of the training set of parameters; and  
    a code directed to an output module coupled to the process controller, the output module being adapted to output a result based upon operation of the code directed to determining.

64.\_\_\_\_ (New) The system of claim 63 wherein the healthcare entity providing a health product.

65.\_\_\_\_ (New) The system of claim 63 wherein the plurality of parameters are selected from an intrinsic element or an extrinsic element of the process.

66.\_\_\_\_ (New) The system of claim 63 wherein the input module code, the computer aided process module code, and the output module code are provided in a single computer software program.

67. (New) The system of claim 63 wherein the computer aided module code includes at least an algorithm selected from PCA, HCA, KNN CV KNN Prd, SIMCA CV, SIMCA Prd, Canon Prd, Fisher CV, and SCREAM.

68. (New) The system of claim 63 further comprising a code directed to normalizing coupled to the process controller, the normalizing code being adapted to normalize each of the plurality of parameters before input into the computer aided process module.

69. (New) The system of claim 63 wherein the training set of parameters are preprocessed in at least the computer aided process module.

70. (New) The system of claim 63 wherein the result is an affirmative response or a negative response, the result being displayed on a terminal.

71. (New) The system of claim 63 wherein the computer aided process module comprises a library comprising a plurality of processes.

72. (New) The system of claim 71 wherein the plurality of processes includes at least a comparing process module, a contrasting process module, and a functional process module.

73. (New) A system for monitoring healthcare processes for treating patients, the system comprising a computer code product, the product comprising:

a code directed to an input module, the input module code being adapted to input a plurality of process parameters from a healthcare process;

a code directed to a library module coupled to the input module code, the library module code including a plurality of computer aided processes, each of the computer aided processes being capable of determining an output based upon a predetermined training set of the plurality of process parameters;

a code directed to an output module coupled to the library module code, the

output module code being adapted to output a result based upon the predetermined training set and the plurality of process parameters; wherein each of the computer aided processes compares at least two of the plurality of process parameters against a portion of the training set of parameters and determines an output based upon at least two of the plurality of process parameters and one or more of the training set of parameters.

74.\_\_\_\_ (New) A system for monitoring healthcare processes for anomalies, the system comprising a computer program product, the product comprising:  
a code directed to storing a first model in memory;  
a code directed to acquiring data from a healthcare process;  
a code directed to applying the first model to the data to identify a first predicted descriptor characteristic of a state of the healthcare process; and  
a code directed to consulting a first knowledge based system to provide an output based upon the first predicted descriptor.

75.\_\_\_\_ (New) The product of claim 74 wherein the model is constructed from a mathematical equation describing a physical law.

76.\_\_\_\_ (New) The product of claim 74 further comprising preprocessing the data prior to applying the model.

77.\_\_\_\_ (New) The product of claim 74 wherein the output is communicated to the process to adjust an operational of the healthcare process.

78.\_\_\_\_ (New) The product of claim 74 wherein the output is communicated to an operator to permit monitoring of the state of the healthcare process.

79.\_\_\_\_ (New) The product of claim 74 wherein the output is resident on a server and accessible to a user over a network of computers utilizing a browser software program.

80.\_\_\_\_ (New) The product of claim 79 wherein the input is acquired from the healthcare process over a network of computers

81.\_\_\_\_ (New) The product of claim 74 wherein the input is acquired from the healthcare process over a network of computers.

82.\_\_\_\_ (New) The product of claim 74 wherein the output is communicated over a network of computers to an associated system, the associated system including at least one of a legacy system, an e-enterprise system, and a desktop application.

83.\_\_\_\_ (New) The product of claim 74 wherein the first knowledge based system is an expert system.

84.\_\_\_\_ (New) The product of claim 74 further comprising:  
a code directed to acquiring initial data from a source at a first time;  
a code directed to converting the initial data into electronic form;  
a code directed to loading the initial data into memory;  
a code directed to retrieving the initial data from memory;  
a code directed to acquiring subsequent data from the source at a second time;  
a code directed to assigning a first descriptor to the initial data and a second descriptor to the subsequent data;  
code directed to constructing the model based upon the initial data, the subsequent data, the first descriptor, and the second descriptor; and  
code directed to storing the model in memory.

85.\_\_\_\_ (New) The product of claim 83 wherein the model is constructed from at least one of a univariate statistical technique, a multivariate statistical technique, a time series analysis, and a neural-based approach.

86.\_\_\_\_ (New) The product of claim 83 wherein the model is constructed from one of a group of different algorithms or models stored in a library.

87.\_\_\_\_ (New) The product of claim 83 wherein the source is in communication with the healthcare process, the initial data and the subsequent data reflecting prior operation of the healthcare process.

88.\_\_\_\_ (New) The product of claim 83 wherein the source is in communication with a second process similar to the process, the initial data and the subsequent data reflecting operation of the second process.

89.\_\_\_\_ (New) The product of claim 83 further comprising:  
code directed to constructing a second model;  
code directed to storing the second model in memory;  
code directed to applying the second model to the process data to identify a  
second predicted descriptor characteristic of the process data; and  
code directed to consulting the knowledge based system to produce the output  
based on the first predicted descriptor and the second predicted descriptor.

90.\_\_\_\_ (New) The product of claim 88 wherein the second model is constructed based upon the initial data, the subsequent data, the first descriptor, and the second descriptor, such that comparison of the first descriptor and the second descriptor represents a cross-validation.

91.\_\_\_\_ (New) The product of claim 89 wherein the second model is constructed from operation of a second process similar to the process, such that comparison of the first descriptor to the second descriptor represents an external validation.

92.\_\_\_\_ (New) The product of claim 89 wherein the knowledge based system is an expert system.

93.\_\_\_\_ (New) The product of claim 74 further comprising code configured to receive key preliminary information and to communicate the key

preliminary information downstream to the code applying the first model, such that the first predicted descriptor reflects the key preliminary information.

94.\_\_\_\_ (New) A method for monitoring healthcare processes, the method comprising:

storing a first model in a memory;

acquiring data from a healthcare process;

applying the first model to the data to identify a first predicted descriptor characteristic of a state of the healthcare process; and

consulting a first knowledge based system to provide an output based upon the first predicted descriptor.

95.\_\_\_\_ (New) The method of claim 94 wherein the model is constructed from a mathematical equation describing a physical law.

96.\_\_\_\_ (New) The method of claim 94 further comprising preprocessing the data prior to applying the model.

97.\_\_\_\_ (New) The method of claim 94 wherein the output is communicated to the healthcare process to adjust an operational parameter of the healthcare process.

98.\_\_\_\_ (New) The method of claim 94 wherein the output is communicated to a human operator to permit monitoring of the healthcare process.

99.\_\_\_\_ (New) The method of claim 94 wherein the output is resident on a server and accessible to a user through a browser software program.

100.\_\_\_\_ (New) The product of claim 99 wherein the input is acquired from the healthcare process over a network of computers



101. (New) The product of claim 94 wherein the input is acquired from the process over a network of computers.

102. (New) The method of claim 94 wherein the output is communicated over a network to an associated system, the associated system including at least one of a legacy system, an e-enterprise system, and a desktop application.

103. (New) The method of claim 94 wherein the first knowledge based system is an expert system.

104. (New) The method of claim 94 further comprising:  
acquiring initial data from a source at a first time;  
converting the initial data into electronic form;  
loading the initial data into memory;  
retrieving the initial data from memory;  
acquiring subsequent data from the source at a second time;  
assigning a first descriptor to the initial data and a second descriptor to the subsequent data;  
constructing the model based upon the initial data, the subsequent data, the first descriptor, and the second descriptor; and  
storing the model in memory.

105. (New) The method of claim 104 wherein the model is constructed from one of a univariate statistical technique, a multivariate statistical technique, and a time series analysis.

106. (New) The method of claim 104 wherein the model is constructed from one of a group of different algorithms stored in a library.

107. (New) The method of claim 104 wherein the source is in communication with the healthcare process, the initial data and the subsequent data reflecting prior operation of the healthcare process.

108. (New) The method of claim 104 wherein the source is in communication with a second process similar to the healthcare process, the initial data and the subsequent data reflecting operation of the second healthcare process.

109. (New) The method of claim 104 further comprising:  
constructing a second model;  
storing the second model in memory;  
applying the second model to the healthcare process data to identify a  
second predicted descriptor characteristic of the healthcare process data; and  
consulting the first knowledge based system to produce the output based  
upon the first predicted descriptor and the second predicted descriptor.

110. (New) The method of claim 109 wherein the second model is constructed based upon the initial data, the subsequent data, the first descriptor, and the second descriptor, such that comparison of the first descriptor and the second descriptor represents a cross-validation.

111. (New) The method of claim 109 wherein the second model is constructed from operation of a second healthcare process similar to the healthcare process, such that comparison of the first descriptor to the second descriptor represents an external validation.

112. (New) The method of claim 109 wherein the knowledge based system is an expert system.

113. (New) The method claim 94 further comprising receiving key preliminary information and communicating the key preliminary information downstream

to the first model, such that the first predicted descriptor reflects the key preliminary information.